

# Field Assembly Instruction

HYDRAULIC  
EXCAVATOR

***PC1250 -11R***  
***PC1250SP-11R***

SERIAL NUMBERS 50077 and up

**KOMATSU**

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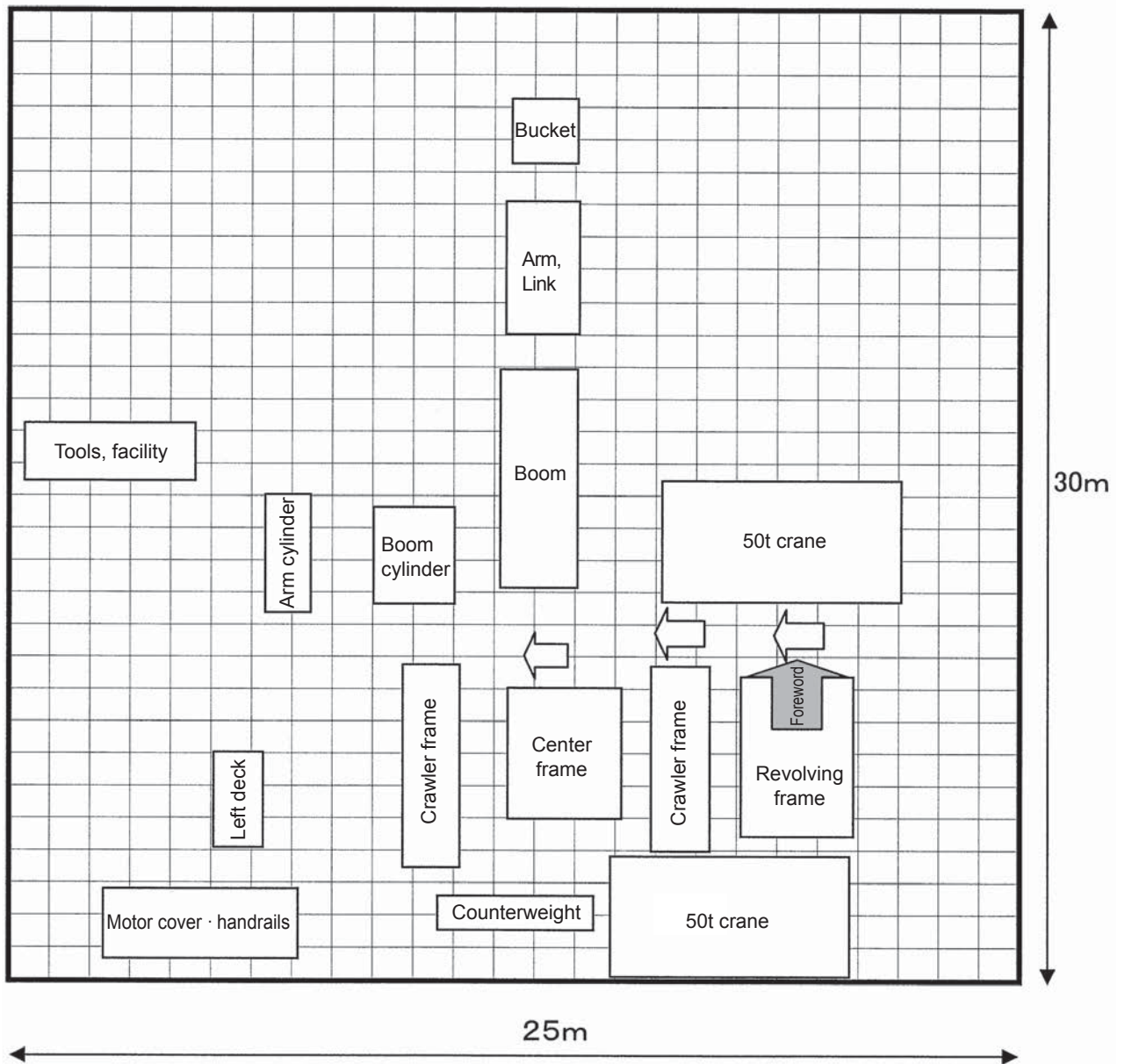


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## KIT LAYOUT DIAGRAM

- The dimensions given below are the minimum dimensions needed.
- The kit dimensions in the diagram are outline dimensions.
- When selecting a place, see precautions for "FIELD ASSEMBLING".



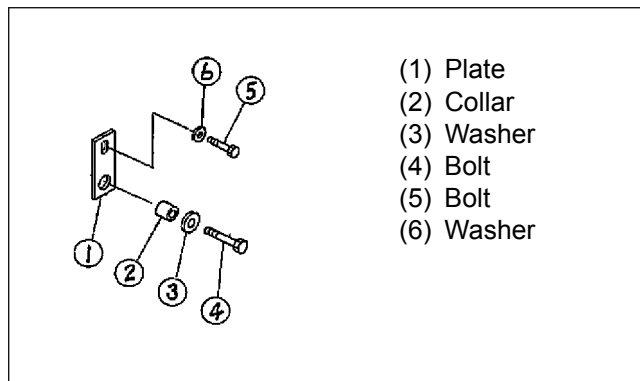
| No. |                               | Tool name             | Specification   | Q'ty         | Remarks   |
|-----|-------------------------------|-----------------------|---|--------------|---|
| 26  | Slings                        | Wire                  | Φ10 x 3000 mm   | 4            | Catwalk   |
|     |                               |                       | Φ20 x 5000 mm   | 4            | Arm and bucket  |
|     |                               |                       | Φ25 x 5000 mm   | 2            | Revolving frame   |
|     |                               |                       | Φ30 x 5000 mm   | 4            | Track frame and boom                                      |
|     |                               |                       | Φ36 x 5000 mm   | 2            | Counterweight   |
| 27  |                               | Shackle               | BC40 (10 t)   | 2            | Counterweight   |
|     |                               |                       | BC36 (8 t)  | 2            | Revolving frame and boom                                  |
|     |                               |                       | BC20 (2.5 t)  | 4            | Center frame  |
|     |                               |                       | BC14 (1.2 t)  | 1            | Travel motor cover  |
| 28  |                               | Nylon sling           | 50 mm wide x 3000 mm long (1.5 t)                           | 2            | Boom cylinder and arm cylinder                            |
|     |                               |                       | 25 mm wide x 3000 mm long (0.75 t)                          | 2            | Handrail  |
| 29  |                               | Rope                  | 5 m   | 1            | For fixing boom assembly                                  |
| 30  |                               | Pin                   | Φ40 x 500 mm  | 2            | Track frame   |
| 31  |                               | Lever block           | 1.5 to 3 t  | 2            |   |
| 32  |                               | Eyebolt               | M12 (0.22 t)  | 3            |   |
| 33  | Oil, grease, and sub material | Cleaning liquid       | Brake cleaner spray can                                     | 10 cans      |   |
| 34  |                               | Hydraulic oil         | HO56-HE   | 500 L        |   |
| 35  |                               | Grease                | G2-LI (18-L pail can)                                       | 4 cans       | For lubricating inside of swing circle and work equipment |
| 36  |                               | Paint for touching up | Natural yellow spray can                                    | 5            |   |
|     |                               |                       | Black gray spray can  | 5            |   |
| 37  | Cloth                         | 1 bundle              | 20 kg   | For cleaning |   |
| 38  | other                         | Marker [A] and [B]    | See [ M-6, Inspection method of 12m visibility ] in detail. | each one     | For inspection of 12m visibility                          |

## A. ASSEMBLY OF CHASSIS

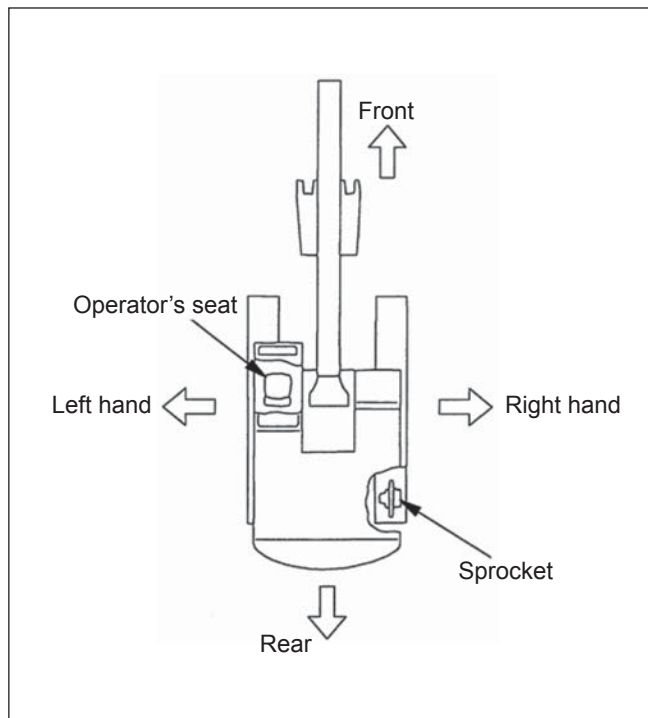
### Remarks

1. In the "drawings" in this manual, parts and places are indicated by ①, ②, ③ ---, but indicated by (1), (2), (3) --- in the tables and texts.

### Example:

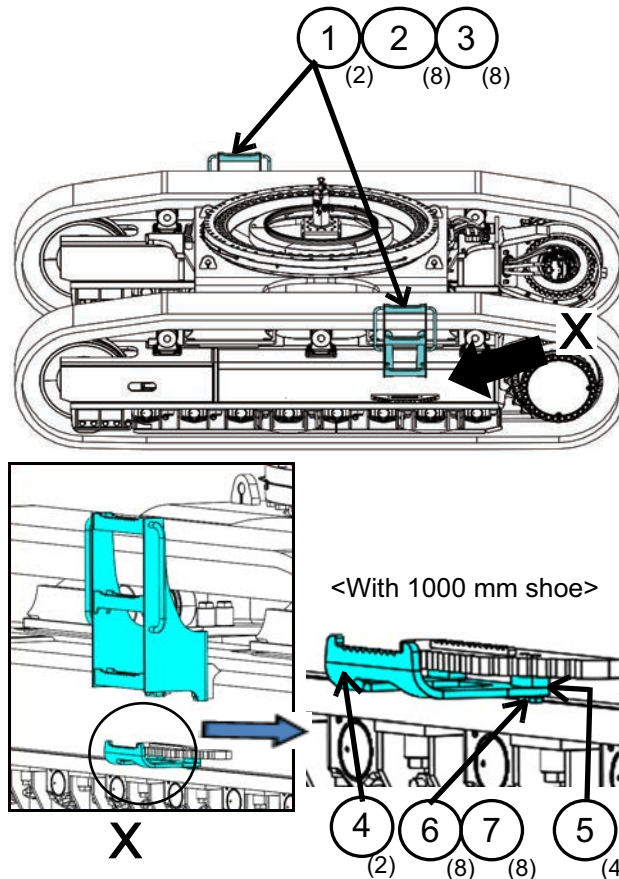


2. In some places of this manual, the words of front, rear, right hand and left hand of machine are used. Those words indicate the directions seen from the operator's seat with the sprocket at the rear as shown below, unless otherwise specified.



|                    |                        |
|--------------------|------------------------|
| Assembly procedure | <h1>Install steps</h1> |
| <h2>A-4</h2>       |                        |

- Install ladders and brackets to the R.H. and L.H. track frames with bolts, washers and plates as follows.
- Parts depends on machine spec. (STD spec , LC spec or shoe width)
- Tightening torque of step mounting bolt : 245 to 309 Nm {25 to 31.5 kgm}



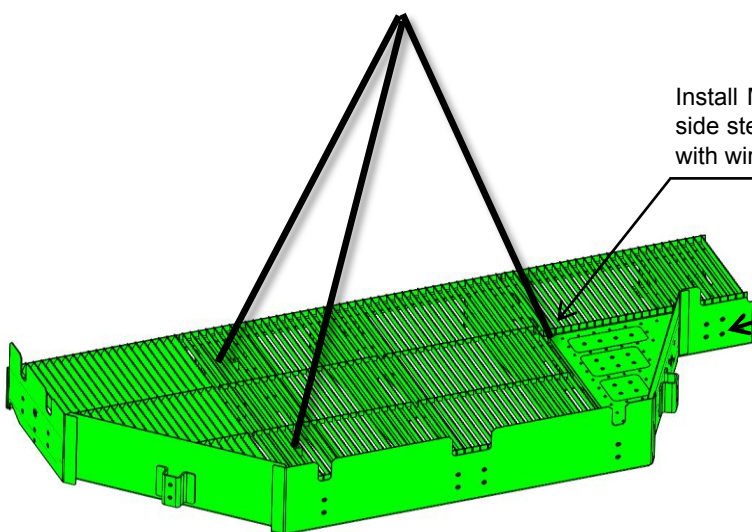
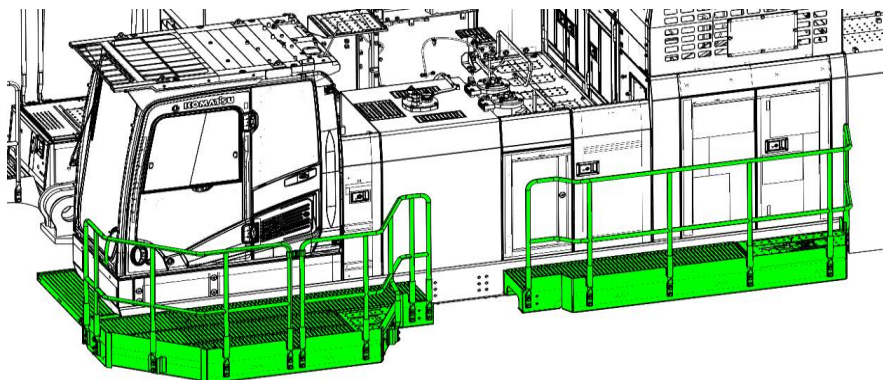
| No. | Loose-supply item |                   | Part name | Q'ty |
|-----|-------------------|-------------------|-----------|------|
|     | with 700 mm shoe  | with 1000 mm shoe |           |      |
| 1   | 21N-30-37240      | 21N-30-57451      | LADDER    | 2    |
| 2   | 01010-81635       | 01010-81665       | BOL       | 8    |
| 3   | 01643-31645       | 01643-31645       | WASHER    | 8    |
| 4   | ----              | 21N-30-32160      | BRACKET   | 2    |
| 5   | ----              | 21N-30-57570      | PLATE     | 4    |
| 6   | ----              | 01010-81670       | BOL       | 8    |
| 7   | ----              | 01643-31645       | WASHER    | 8    |

| Precautions | Necessary tools                    |      | Necessary equipment |      |
|-------------|------------------------------------|------|---------------------|------|
|             | Name                               | Q'ty | Name                | Q'ty |
|             | Medium impact wrench               | 1    |                     |      |
|             | Socket 24 mm in width across flats | 1    |                     |      |
|             | 150mm long extension               | 1    |                     |      |
|             |                                    |      |                     |      |
|             |                                    |      |                     |      |
|             |                                    |      |                     |      |
|             |                                    |      |                     |      |
|             | Other items                        |      |                     |      |

**A-12**

**Install L.H. side step (1/6)**

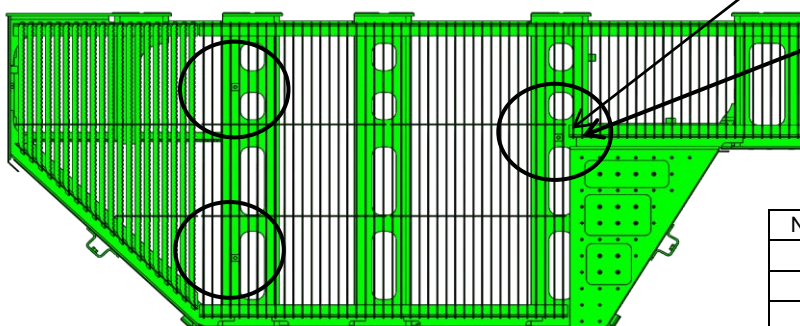
Install the L.H. side step according to the following procedure.



Install M12 eyebolts (3 places) to left side step as shown at left, and sling it with wires.

1

Install step to revolving frame, then remove M12 sling eyebolts, install plugs, and touch up. (3 places)



2

(3)

| No. | Loose-supply item | Part name | Q'ty |
|-----|-------------------|-----------|------|
| 1   | 21N-54-52524      | STEP      | 1    |
| 2   | 07049-01215       | PLUG      | 3    |
|     |                   |           |      |

Precautions

- Degrease and de-rust the mating faces of the L.H. side step and the revolving frame.

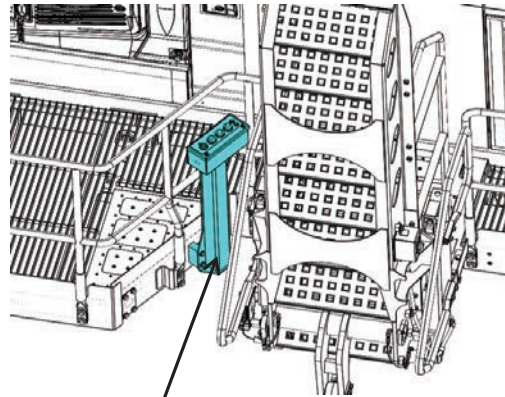
Necessary tools

Necessary equipment

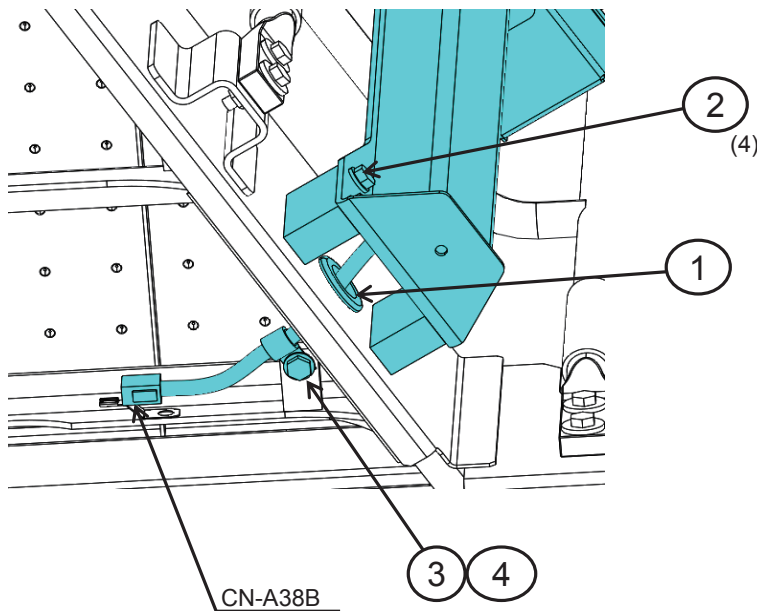
| Name             | Q'ty | Name      | Q'ty |
|------------------|------|-----------|------|
| M12 eyebolt      | 3    | 25t crane | 1    |
| Wire, Φ10 x 3000 | 3    |           |      |
|                  |      |           |      |
|                  |      |           |      |
|                  |      |           |      |
|                  |      |           |      |
|                  |      |           |      |

Other items

**Install hydraulic stairway (if equipped) (3/5)**



Switch box assembly



| No. | Loose-supply item | Part name | Q'ty |
|-----|-------------------|-----------|------|
| 1   | 08037-03614       | GROMMET   | 1    |
| 2   | 01024-81290       | BOLT      | 4    |
| 3   | 04434-51712       | CLIP      | 1    |
| 4   | 01024-81225       | BOLT      | 1    |

Precautions

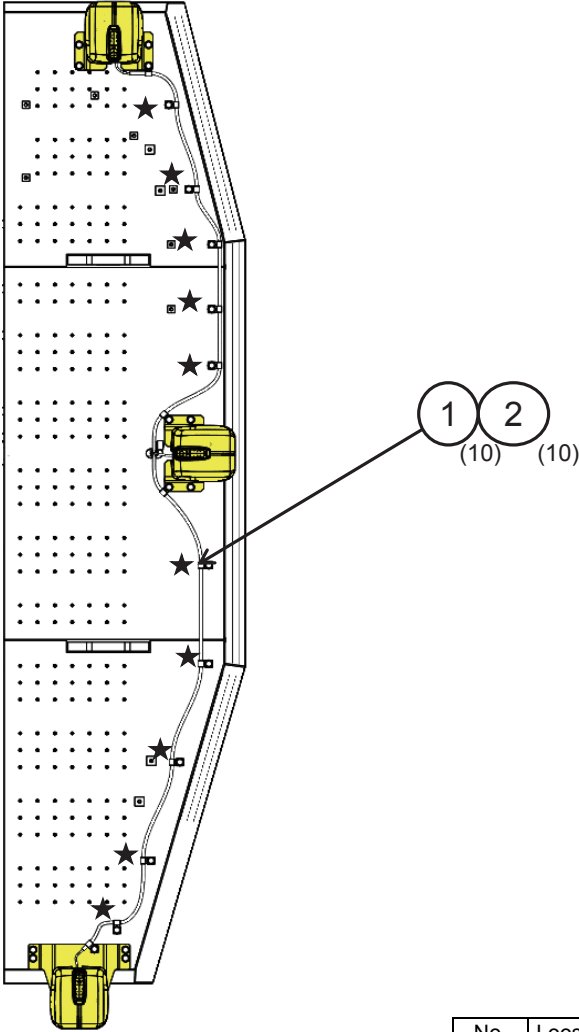
Necessary tools

Necessary equipment

| Name                               | Q'ty | Name | Q'ty |
|------------------------------------|------|------|------|
| Small impact wrench                | 1    |      |      |
| Socket 19 mm in width across flats | 1    |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
| Other items                        |      |      |      |

|                    |                                       |
|--------------------|---------------------------------------|
| Assembly procedure | <b>Install KomVision camera (5/8)</b> |
| <b>A-17</b>        |                                       |

5. Connect the harness with bolts (2) and clips (1). (10 pieces, ★ part)



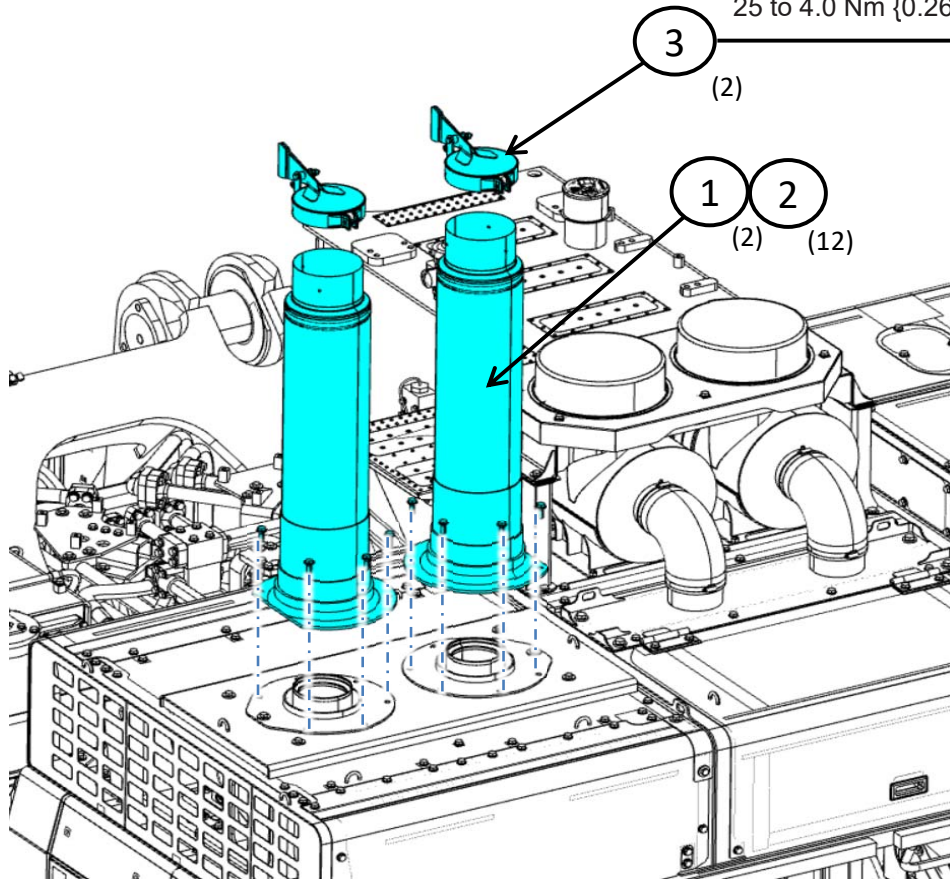
| No. | Loose-supply item | Part name | Q'ty |
|-----|-------------------|-----------|------|
| 1   | 04434-51012       | CLIP      | 10   |
| 2   | 01024-81225       | BOLT      | 10   |
|     |                   |           |      |

| Precautions | Necessary tools                    |             | Necessary equipment |      |
|-------------|------------------------------------|-------------|---------------------|------|
|             | Name                               | Q'ty        | Name                | Q'ty |
|             | Small impact wrench                | 1           |                     |      |
|             | Socket 19 mm in width across flats | 1           |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    |             |                     |      |
|             |                                    | Other items |                     |      |

## Install exhaust tail pipe

1. Install tail pipe (1) to the hood using bolt (2).
2. Install rain cap (3) to tail pipe (1).

Tightening torque:  
25 to 4.0 Nm {0.26 to 0.41 kgm}



| No. | Loose-supply item | Part name | Q'ty |
|-----|-------------------|-----------|------|
| 1   | 5245-11-5810      | PIPE      | 2    |
| 2   | 01024-81240       | BOLT      | 12   |
| 3   | 6164-12-5910      | PLATE     | 2    |

Precautions

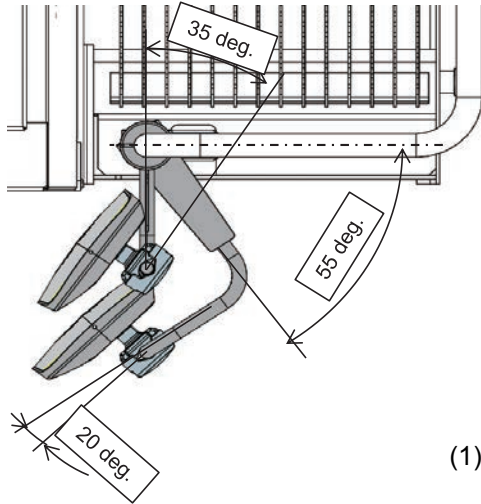
Necessary tools

Necessary equipment

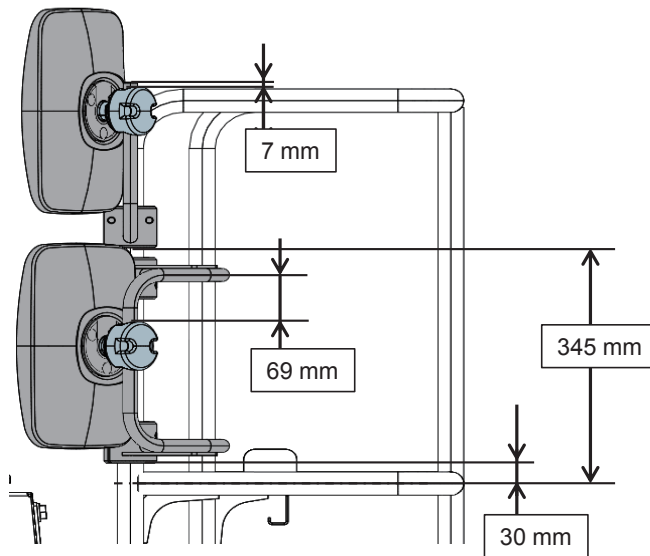
| Name                               | Q'ty | Name | Q'ty |
|------------------------------------|------|------|------|
| Small impact wrench                | 1    |      |      |
| Socket 19 mm in width across flats | 1    |      |      |
| Socket 10 mm in width across flats | 1    |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
|                                    |      |      |      |
|                                    |      |      |      |

Other items

**Install R.H. rearview mirror (2/2)**



(1) Adjust the mirror position so that the operator can recognize people at the right rear of the machine.



| Precautions | Necessary tools                           |      | Necessary equipment |      |
|-------------|---|------|---------------------|------|
|             | Name                                      | Q'ty | Name                | Q'ty |
|             | Hexagon socket 5 mm in width across flats | 1    |                     |      |
|             | Hexagon socket 8 mm in width across flats | 1    |                     |      |
|             |   |      |                     |      |
|             |   |      |                     |      |
|             |   |      |                     |      |
|             | Other items                               |      |                     |      |

## **B. ASSEMBLING OF WORK EQUIPMENT OF BACKHOE**

- Clean the mounting pin and pin hole and check them for a flaw.

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**B-9**

**Install boom cylinder to boom assembly**

(1) Remove the lock plate fixed to the boom, and remove the boom cylinder top pin.

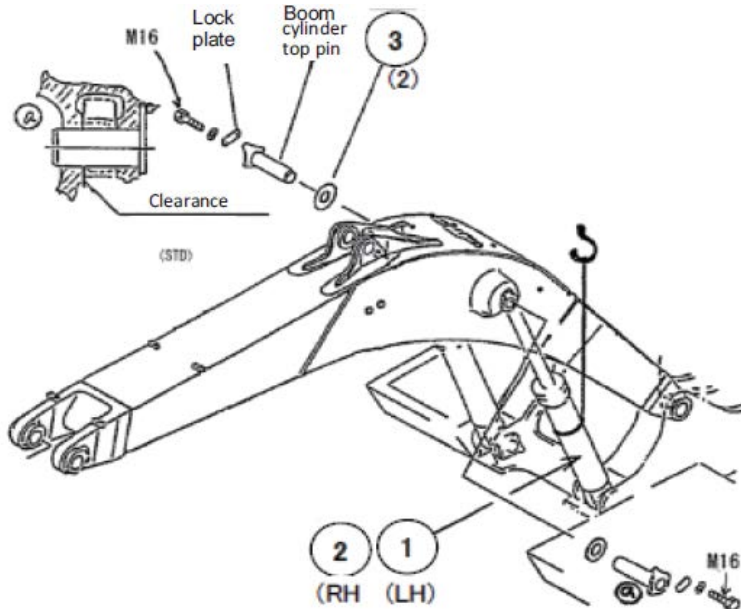
Boom cylinder top pin: 44 kg x 2 pcs.

(2) Start and run the engine at low idle.

(3) Sling the cylinder, push the rod slowly, set the pin holes, and check the clearance between cylinder boss end and boom boss end. Insert a proper number of shims and adjust the clearance to 2 to 3 mm, push in the pin, and install the lock plate.

Inside surface of pin hole: Apply lithium grease

Tightening torque of plate mounting bolt: 245 to 309 Nm {25 to 31.5 kgm}



| No. | Loose-supply item       | Part name | Q'ty |
|-----|-------------------------|-----------|------|
| 1   | 707-H1-X5170            | CYLINDER  | 1    |
| 2   | 707-H1-X5180            | CYLINDER  | 1    |
| 3   | 21N-72-11230            | SHIM      | 2    |
| No. | Parts installed to boom | Part name | Q'ty |
| 4   | 21N-72-11152            | PIN       | 2    |
| 5   | 21N-70-11230            | PLATE     | 2    |
| 6   | 01643-31645             | WASHER    | 4    |
| 7   | 01010-81640             | BOLT      | 4    |

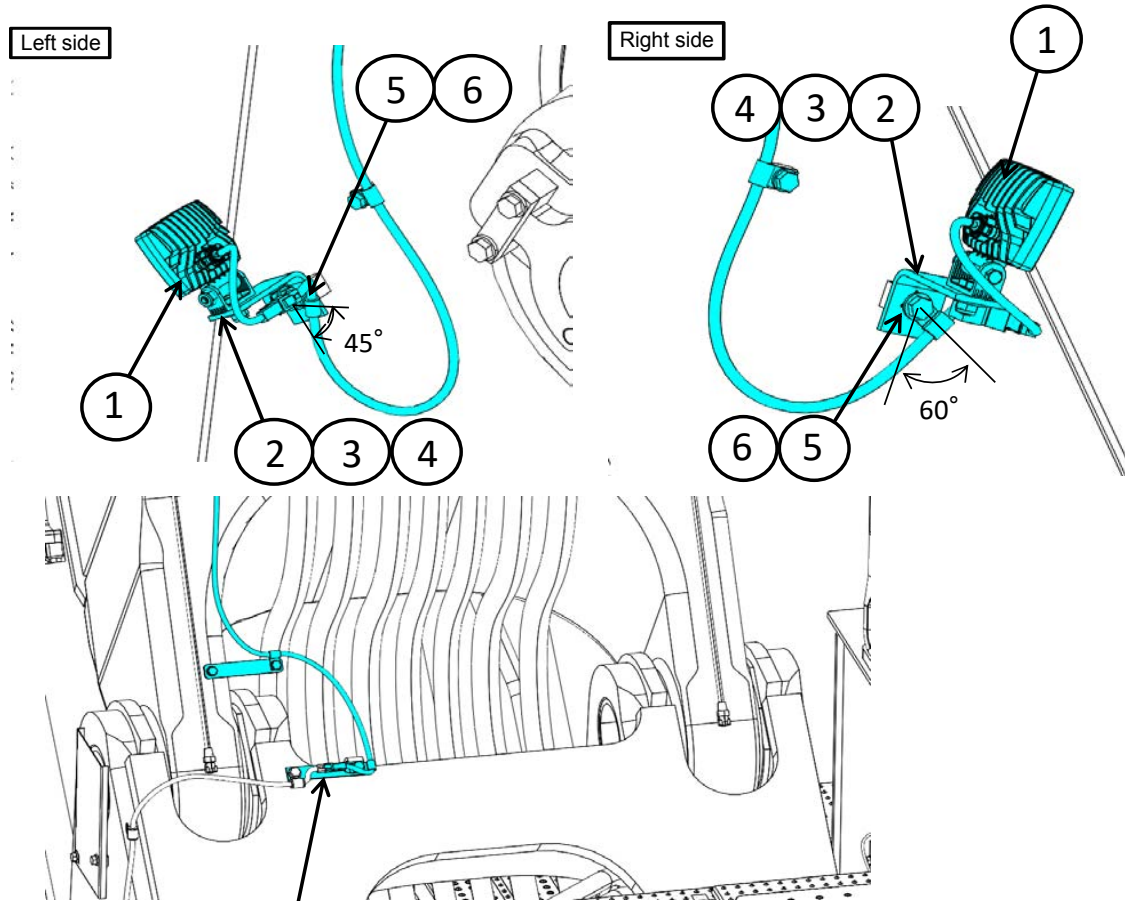
| Precautions | Necessary tools                    |      | Necessary equipment |      |
|-------------|------------------------------------|------|---------------------|------|
|             | Name                               | Q'ty | Name                | Q'ty |
|             | 25 wide x 3000 Nylon sling         | 2    | 25t crane           | 1    |
|             | Medium impact wrench               | 1    |                     |      |
|             | Socket 24 mm in width across flats | 1    |                     |      |
|             | Sledge hammer                      | 1    |                     |      |
|             |                                    |      |                     |      |
|             |                                    |      |                     |      |
|             |                                    |      |                     |      |
|             | Other items                        |      |                     |      |

**B-16**

**Install work equipment lamps**

(1) Install the lamps to both sides of boom according to the figure below.

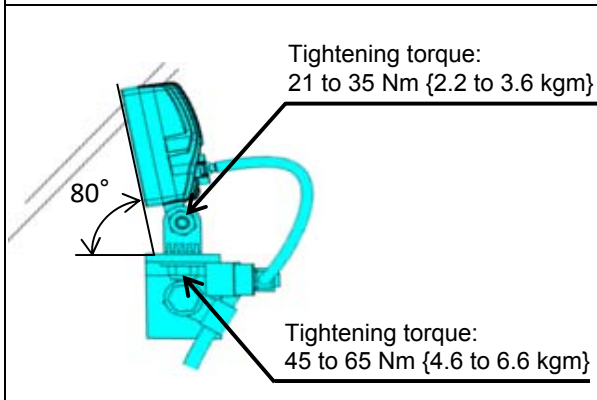
(2) Clamp the wiring to a point on the machine side, and connect it to the wiring on the machine side.



| No. | Loose-supply item | Part name | Q'ty |
|-----|-------------------|-----------|------|
| 1   | 2A8-06-11310      | LAMP A.   | 2    |
| 2   | 20Y-06-21551      | BRACKET   | 2    |
| 3   | 08193-20012       | CLIP      | 2    |
| 4   | 01024-81230       | BOLT      | 2    |
| 5   | 04434-51012       | CLIP      | 2    |
| 6   | 01024-81220       | BOLT      | 2    |

Connect wiring harness

Precautions



Necessary tools

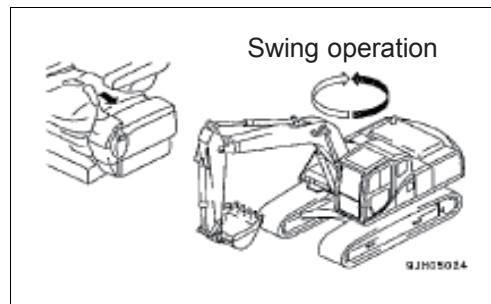
Necessary equipment

| Name                               |  | Q'ty | Name |  | Q'ty |
|------------------------------------|--|------|------|--|------|
| Small impact wrench                |  | 1    |      |  |      |
| Socket 22 mm in width across flats |  | 1    |      |  |      |
| Socket 19 mm in width across flats |  | 1    |      |  |      |
| Socket 17 mm in width across flats |  | 1    |      |  |      |
|                                    |  |      |      |  |      |
|                                    |  |      |      |  |      |
|                                    |  |      |      |  |      |
|                                    |  |      |      |  |      |
|                                    |  |      |      |  |      |
| Other items                        |  |      |      |  |      |

|                    |                                      |
|--------------------|--------------------------------------|
| Assembly procedure | <b>Flush hydraulic circuit (2/2)</b> |
| <b>M-2</b>         |                                      |

(2) Flush swing circuit

Swing RIGHT } 3 min. each  
Swing LEFT }

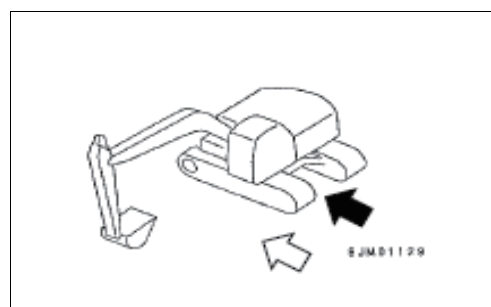


(3) Flush travel circuit

Push the ground with the work equipment and raise one side of the machine as shown at right. Operate the travel lever as follows.

Travel RIGHT Forward } 3 min. each  
Reverse }

Travel LEFT Forward } 3 min. each  
Reverse }



(4) Check

After flushing, replace the flushing kit with the standard kit according to "Replace return filter". At this time, check the dirt collected in the flushing element and see if it is problematic. If the dirt seems to be problematic, consult your Komatsu distributor.

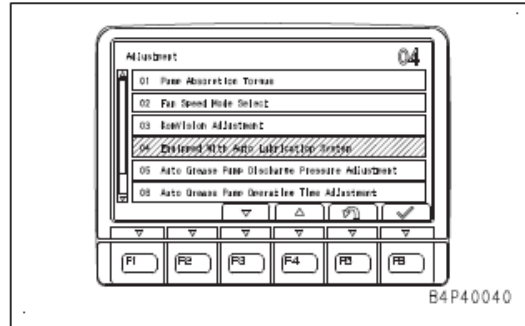
| Precautions | Necessary tools |      | Necessary equipment |      |
|-------------|-----------------|------|---------------------|------|
|             | Name            | Q'ty | Name                | Q'ty |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
| Other items |                 |      |                     |      |

**Setting of KomVision (Camera calibration) (7/12)**

5. Select "KomVision Adjustment" with the function switches or numeral input switches on "Adjustment" screen.

**REMARK**

See "METHOD FOR OPERATING SERVICE MODE" in "SERVICE MODE" for selecting method.



6. Select "Camera Calibration" with the function switches on "KomVision Adjustment Menu" screen.

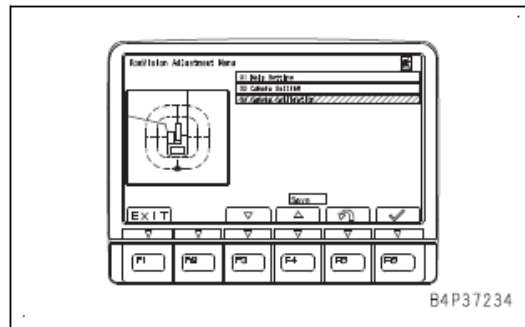
F1: The screen returns to "Service Menu" screen.

F3: Moves the selection downward.

F4: Moves the selection upward.

F5: Selection is canceled. The screen returns to "Adjustment" screen.

F6: Enters the selected item.



7. Select "02 Position Calibration" with the function switches on "CAMERA CALIBRATION" screen.

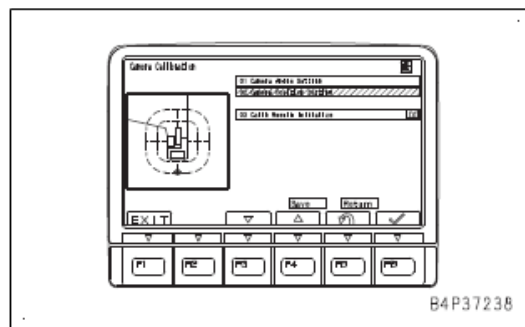
F1: The screen returns to "Service Menu" screen.

F3: Moves the selection downward.

F4: Moves the selection upward.

F5: Selection is canceled. The screen returns to "KomVision Adjustment Menu" screen.

F6: Enters the selected item.



8. Select the camera to be adjusted with the function switches on "Camera Selection (Position Calibration)" screen.

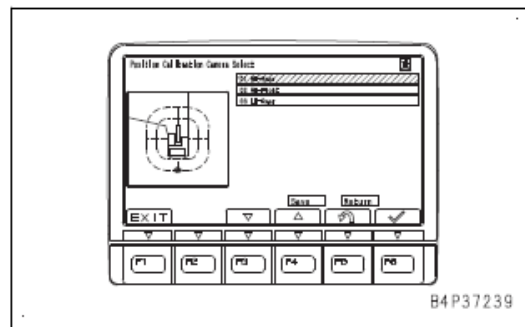
F1: The screen returns to "Service Menu" screen.

F3: Moves the selection downward.

F4: Moves the selection upward.

F5: Selection is canceled. The screen returns to "CAMERA CALIBRATION" screen.

F6: Enters the selected item.



**REMARK**

Table 2 describes the calibrations target of cameras. The calibration targets change depending on the selected camera on "Camera Selection (Position Calibration)" screen.

**Table 2**


| Selected item     | Standard camera  | Camera to be adjusted |
|-------------------|------------------|-----------------------|
| Rear R.H. camera  | Rear camera      | Rear R.H. camera      |
| Front R.H. camera | Rear R.H. camera | Front R.H. camera     |
| Rear L.H. camera  | Rear camera      | Rear L.H. camera      |

## **C. PROCEDURE FOR ASSEMBLING WORK EQUIPMENT OF LOADING SHOVEL**

<Note> This manual describes only the assembly procedure for work equipment different from the backhoe specification model.  
For the procedures for assembling the base machine, flushing the hydraulic circuit, bleeding air from the hydraulic circuit, adjusting the track link, and checking the oil, water, and fuel, see the backhoe specification model.

## Installation of Boom and Arm Assembly

(1) Sling the work equipment assembly with a crane and align the boom foot pin holes.

 Work equipment assembly: 13,470 kg

(2) Assemble seal (209-72-11311, 4 pieces) to boom foot.

(3) Install the boom foot pin.

★ Push in the boom foot pin on either side until it is stopped, and then align the pin holes on the other side.


If the boom leans to the right or left at this time, balance it by using a jib crane.

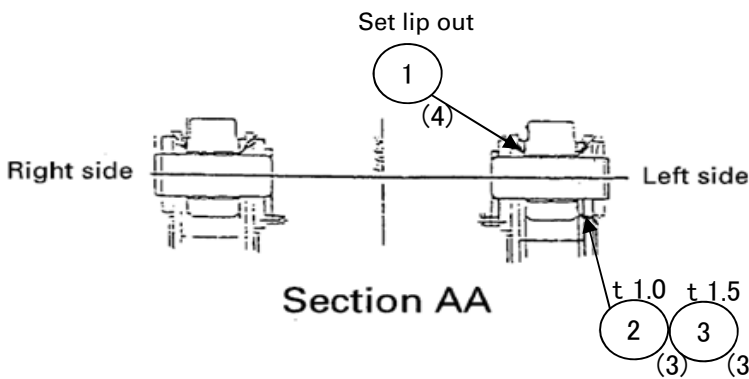
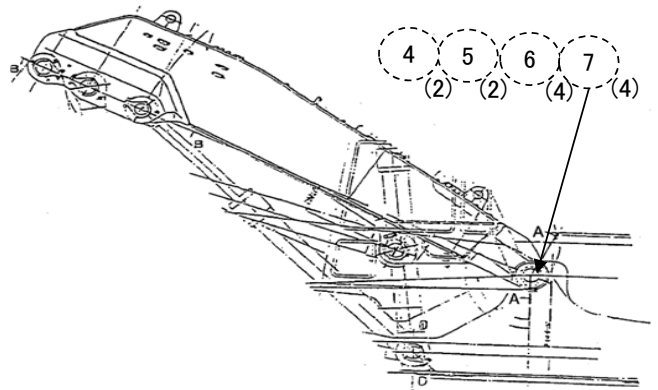
★ Check the clearance at the boom foot pin on the outside of the chassis and decide the quantity of the adjustment shims to reduce the clearance below 1 mm.

Combine prepared adjustment shims (21N-72-11220, t1.5, 3 pieces) and (21N-72-11210, t1.0, 3 pieces) to obtain the necessary thickness.

(Adjust the shims at the 1 place on the left outside of the boom.)

(4) Fully push in the boom foot pins on both sides and install the stopper plates.  
Inside of pin hole: Apply lithium grease.

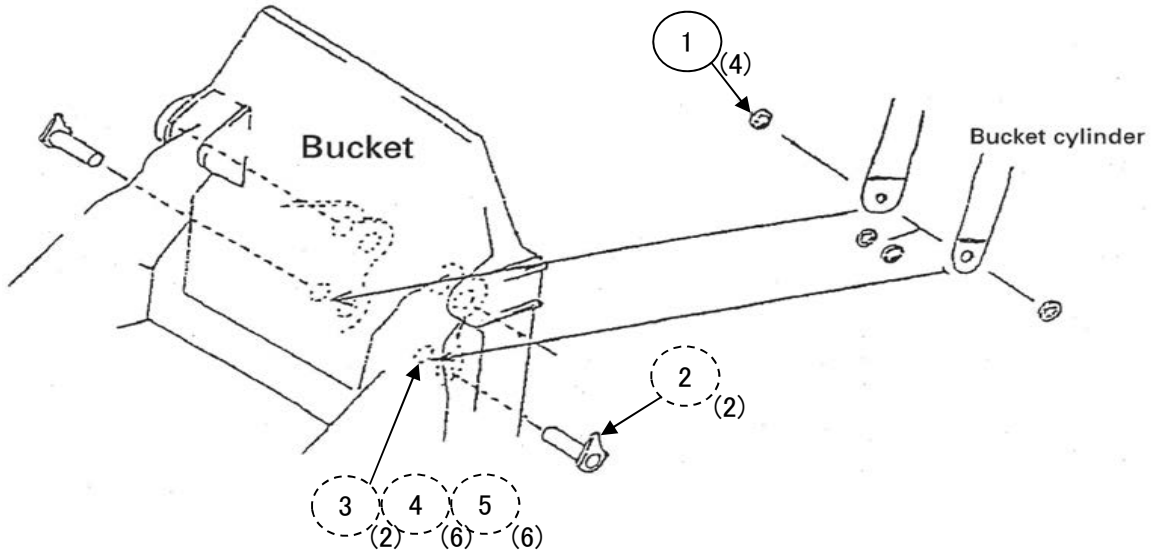
 Stopper plate mounting bolt:  
245 to 309 Nm {25 to 31.5 kgm}



| No. | Loose-supply item         | Part name | Q'ty |
|-----|---------------------------|-----------|------|
| 1   | 209-72-11311              | SEAL      | 4    |
| 2   | 21N-72-11210              | SHIM      | 3    |
| 3   | 21N-72-11220              | SHIM      | 3    |
| No. | Item installed to chassis | Part name | Q'ty |
| 4   | 21N-70-37210              | PIN       | 2    |
| 5   | 21N-70-11230              | PLATE     | 2    |
| 6   | 01010-81640               | BOLT      | 4    |
| 7   | 01643-31645               | WASHER    | 4    |


| Precautions   | Necessary tools |      | Necessary equipment |      |
|---|-----------------|------|---------------------|------|
|   | Name            | Q'ty | Name                | Q'ty |
| 1. Install the seals upright.<br>2. Insert the seals until they touch the bushing.<br>3. Do not hit each seal directly with a hammer, but drive them via a pad plate, etc.<br>4. Apply lithium grease to the inside walls of pin holes.<br>5. When inserting each pin, take care not to damage the seal (Securely align the pin). |                 |      |                     |      |
|   |                 |      |                     |      |
|   |                 |      |                     |      |
|   |                 |      |                     |      |
|   |                 |      |                     |      |
| Others  |                 |      |                     |      |

(5) Put 2 O-rings in the O-ring grooves of the bushings at each bucket cylinder bottom.



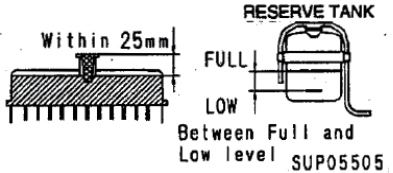
(6) Align the holes for the bucket-cylinder connecting pins.

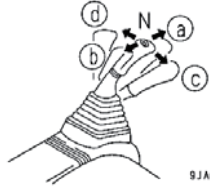
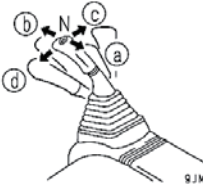
(7) Push in bucket-cylinder connecting pins and install them with holders, bolts and washers from the opposite side.

 Holder mounting bolt: 245 to 309 Nm {25 to 31.5 kgm}  
(Inside wall of pin hole: Apply lithium grease.)

| No. | Loose-supply item        | Part name | Q'ty |
|-----|--------------------------|-----------|------|
| 1   | 07000-12130              | O-RING    | 4    |
| No. | Item installed to bucket | Part name | Q'ty |
| 2   | 21N-72-35261             | PIN       | 2    |
| 3   | 21N-72-13130             | HOLDER    | 2    |
| 4   | 01010-81645              | BOLT      | 6    |
| 5   | 01643-31645              | WASHER    | 6    |

| Precautions | Necessary tools |      | Necessary equipment |      |
|-------------|-----------------|------|---------------------|------|
|             | Name            | Q'ty | Name                | Q'ty |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             |                 |      |                     |      |
|             | Others          |      |                     |      |

| Category               | Revision | Check item  |                          | Actual measurement           | Local assembly time        | After hours of operation | Judgment standard  |  |
|------------------------|----------|---|--------------------------|------------------------------|----------------------------|--------------------------|--|--|
| Checks before assembly |          | Oil and water levels  |                          | Actual measurement           |                            |                          |  |  |
|                        |          | Cooling water   | Soft water               | [            ]               |                            |                          |                                       |  |
|                        |          | Anti-freeze (A, B, C, D, E)                                     | Density of anti-freeze   | [            ]               |                            |                          | A: -50 to -40 °C    D: -20 to -10 °C<br>B: -40 to -30 °C    E: -10 to 0 °C<br>C: -30 to -20 °C (Not necessary in summer) |  |
|                        |          | Engine oil  | EO10W30-DH<br>EO15W40-DH | [            ]               |                            |                          | L to H <sup>+5mm</sup> (15 minutes after stopping engine)  |  |
|                        |          | PTO oil   |                          | TO30                         | [            ]             |                          |  | L <sup>+5mm</sup> to H (15 minutes after stopping engine)                  |
|                        |          | Swing machinery gear case oil                                   |                          | TO30                         | [            ]             |                          |  | L <sup>+5mm</sup> to H <sup>+10mm</sup> (15 minutes after stopping engine) |
|                        |          | Final drive gear case oil                                       | Right                    | TO30                         | [            ]             |                          |  | Bottom edge of level plug : 0 to -10 mm                                    |
|                        |          |   | Left                     | TO30                         | [            ]             |                          |  |  |
|                        |          | Hydraulic oil   |                          | HO56-HE                      | [            ]             |                          |  | Between the H and L marks  |
|                        |          | Battery electrolyte   |                          | -                            | [            ]             |                          |  | Within 13 mm from bottom surface of filler port                            |
|                        |          |   |                          |                              |                            |                          |  |  |
|                        |          |   | Engine No.               | [            ]               |                            |                          |  |  |
|                        |          |   | Service meter            | When accepted [            ] | After check [            ] |                          |  |  |
|                        |          |   |                          |                              |                            |                          |  |  |
| Checks during assembly |          | Loose, untightened lock bolts for connecting pins               |                          |                              |                            |                          | There must be none.  |  |
|                        |          | Loose, untightened split flange bolts for work equipment piping |                          |                              |                            |                          | There must be none.  |  |
|                        |          | Forgotten, missing, catching O-rings for work equipment piping  |                          |                              |                            |                          | There must be none.  |  |
|                        |          | Loose, twisted connections for grease piping                    |                          |                              |                            |                          | There must be none.  |  |
|                        |          | Shim adjustment for work equipment pins                         |                          |                              |                            |                          | Max. 1mm (for locations, see assembly procedure manual)  |  |
|                        |          |   |                          |                              |                            |                          |  |  |
|                        |          | Improperly inserted wiring, unconnected wiring                  |                          |                              |                            |                          | There must be none.  |  |
|                        |          |   |                          |                              |                            |                          |  |  |
|                        |          | Loose, untightened ladder mounting bolts                        |                          |                              |                            |                          | There must be none.  |  |

| Category                          | Revision  | Check item  | Local assembly time | After hours of operation                      | Judgment standard  |
|-----------------------------------|---|---|---------------------|---|--|
| Check of switches, control levers |   | Operation of lock lever auto-lock cancel switch<br><br>Lock lever auto-lock function does not work while switch is in UPPER position.<br>When lock lever is canceled while control lever and pedal are operated, work equipment or machine moves. |                     |   | When normal: Switch is in LOWER position.<br><br>When switch is set in UPPER position, lock lever lock switch cancel lamp lights up.   |
|                                   |   | Operation of swing parking brake release switch<br><br>While monitor is displaying "L03 Swing brake system error", if switch is set in UPPER position, brake is released and machine can swing.<br>However, swing brake is kept released.         |                     |   | When normal: Switch is in LOWER position.<br><br>When switch is set in UPPER position, alarm buzzer sounds and swing lock symbol flashes.  |
|                                   |   | Operation of lower wiper switch (if equipped)   |                     |   | ON position: Lower wiper operates.<br>OFF position: Lower wiper stops.   |
|                                   |   | Operation of travel lever   |                     |   | Forward:<br>Lever is pushed forward.<br>(Pedal is depressed forward)<br>Reverse:<br>Lever is pulled back.<br>(Pedal is depressed back)<br>N (Neutral):<br>Machine stops.   |
|                                   |   | Operation of L.H. work equipment control lever<br>(With auto-deceleration mechanism)  |                     |   | This lever is used to operate upper structure and arm.<br>Arm operation      Swing operation<br>(a) Push OUT      (c) Swing RIGHT<br>(b) Pull IN        (d) Swing LEFT<br><br><br>9JA00783<br><br>N (Neutral):<br>Upper structure and arm are held at current positions. |
|                                   |   | Operation of R.H. work equipment control lever<br>(With auto-deceleration mechanism)  |                     |   | This lever is used to operate boom and bucket.<br>Boom operation      Bucket operation<br>(a) Raise              (c) Push OUT<br>(b) Lower             (d) Pull IN<br><br><br>9JM00615<br><br>N (Neutral):<br>Boom and bucket are held at current positions.            |
|                                   |   | Operation of hydraulic stairway (if equipped)   |                     |   | Check that it moves up and down smoothly.<br>When stairway moves down:<br>Must not swing, with caution<br>When stairway moves up:<br>Must swing, without caution   |
|                                   |   | Check of failure record<br>(Both electrical and mechanical systems)   |                     |   | Check that no abnormality is displayed, then delete failure record. Check again at end of inspection, then check that there is no failure record.  |
|                                   | Operation of revolving warning lamp (if equipped) |   |                     | ON position: Revolving warning lamp operates. |  |

Note: If the operation or function is defective, measure as necessary. All judgment standard values for speeds are the values in P+ mode.

| Category               | Revision  | Check item  | Local assembly time                         | After hours of operation | Judgment standard  |  |
|------------------------|---|---|---|--------------------------|--|--|
| Main measurement items |   | <b>1. Engine speed:</b> Check in monitoring mode "01006"  |   |                          |  |  |
|                        |   | Low idle [ rpm]   |   |                          | 850 – 950 rpm  |  |
|                        |   | High idle (Operate lever a little) [ rpm]   |   |                          | 1950 – 2050 rpm  |  |
|                        |   | High idle (Do not operate lever) [ rpm]   |   |                          | 1700 – 1800 rpm  |  |
|                        |   | Speed at arm IN relief [ rpm]   |   |                          | 1780 – 1980 rpm  |  |
|                        |   |   |   |                          |  |  |
|                        |   |   |   |                          |  |  |
|                        |   | <b>2. Radiator fan speed</b> Check in service mode "55"<br>(Fan rotation 100% fixed mode)                                       |   |                          |  |  |
|                        |   | Speed at engine rated speed [ rpm]  |   |                          | 1025 ± 15 rpm<br>(Engine at full throttle at 50°C)   |  |
|                        |   |   |   |                          |  |  |
|                        |   | <b>3. Oil pressure measurement</b> Check in monitoring mode<br>Swing pump "01156",<br>F pump: "01100", R pump: "01101"          |   |                          |  |  |
|                        |   | Control valve main set pressure F pump [ MPa {kg/cm <sup>2</sup> }]   |   |                          | 31.4 ± 1.0 MPa {320 ± 10 kg/cm <sup>2</sup> }  |  |
|                        |   | Control valve main set pressure R pump [ MPa {kg/cm <sup>2</sup> }]   |   |                          | 31.4 ± 1.0 MPa {320 ± 10 kg/cm <sup>2</sup> }  |  |
|                        |   | Control valve main set pressure (Increase of pressure) F pump [ MPa {kg/cm <sup>2</sup> }]                                      |   |                          | 33.3 ± 1.0 MPa {340 ± 10 kg/cm <sup>2</sup> }  |  |
|                        |   | Control valve main set pressure (Increase of pressure) R pump [ MPa {kg/cm <sup>2</sup> }]                                      |   |                          | 33.3 ± 1.0 MPa {340 ± 10 kg/cm <sup>2</sup> }  |  |
|                        |   | Control valve main set pressure Swing pump [ MPa {kg/cm <sup>2</sup> }]   |   |                          | 29.4 ± 1.5 MPa {300 ± 15 kg/cm <sup>2</sup> }  |  |
|                        |   | Pilot relief valve set pressure [ MPa {kg/cm <sup>2</sup> }]  |   |                          | 3.14 <sup>+0.5</sup> MPa {32 <sup>+5</sup> kg/cm <sup>2</sup> }<br>(At engine high idle, neutral)                              |  |
|                        |   |   |   |                          |  |  |
|                        |   |   | In neutral When boom is raised (Heavy: OFF) |                          |  |  |
|                        |   | NC valve output pressure (at top surface of NC valve) No.1 front pump [ MPa {kg/cm <sup>2</sup> }] [ MPa {kg/cm <sup>2</sup> }] |   |                          |  | Max. 0.25 MPa {2.6 kg/cm <sup>2</sup> }: Neutral<br>1.13 ± 0.2 MPa {11.5 ± 2.0 kg/cm <sup>2</sup> }:<br>Boom RAISE (heavy OFF) |
|                        | NC valve output pressure (at top surface of NC valve) No.1 rear pump [ MPa {kg/cm <sup>2</sup> }] [ MPa {kg/cm <sup>2</sup> }]                                |   |   |                          | Max. 0.25 MPa {2.6 kg/cm <sup>2</sup> }: Neutral<br>1.13 ± 0.2 MPa {11.5 ± 2.0 kg/cm <sup>2</sup> }:<br>Boom RAISE (heavy OFF) |  |
|                        |   |   |   |                          |  |  |
|                        | Note: Measure the following J/S differential pressure only if the NC valve output pressure does not pass the test.  |   |   |                          |  |  |
|                        |   | In neutral When boom is raised (Heavy: OFF)   |   |                          |  |  |
|                        | J/S differential pressure (differential pressure at input and output ports of jet sensor) No.1 pump [ MPa {kg/cm <sup>2</sup> }] [ MPa {kg/cm <sup>2</sup> }] |   |   |                          | 1.76 ± 0.2 MPa {18± 2.0 kg/cm <sup>2</sup> }: : Neutral<br>Max. 0.2 MPa {2.0 kg/cm <sup>2</sup> }:<br>Boom RAISE (heavy OFF)   |  |
|                        | J/S differential pressure (differential pressure at input and output ports of jet sensor) No.2 pump [ MPa {kg/cm <sup>2</sup> }] [ MPa {kg/cm <sup>2</sup> }] |   |   |                          | 1.76 ± 0.2 MPa {18± 2.0 kg/cm <sup>2</sup> }: : Neutral<br>Max.0.2 MPa {2.0 kg/cm <sup>2</sup> }:<br>Boom RAISE (heavy OFF)    |  |

| Category   | Revision   | Check item  | Local assembly time | After hours of operation | Judgment standard  |  |  |
|--|--|---|---------------------|--------------------------|--|--|--|
| Check monitor  |  | <b>Monitor display</b><br>1. Check of monitor function<br>When the starting switch is turned ON, the gauges, CHECK items, and all display items on the monitor should light up. At the same the alarm buzzer should sound.                          |                     |                          | Display should be as on left.  |  |  |
|  |  | 2. Check of gauges and CHECK items<br>When starting switch is turned to ON (all lamps on), all display lamps should go out after approx. 3 sec.<br>For another 2 seconds, only the gauges are displayed, and the CHECK and monitor items disappear. |                     |                          |  |  |  |
|  |  | 3. Check of monitor items<br>After starting the engine, the caution lamps should not light up and the alarm buzzer should not sound when the engine speed is low idle – high idle.  |                     |                          |  |  |  |
|  |  | Operation of service meter  |                     |                          | There should be no scratches or misting of the lens or variation in operation. |  |  |
|  |  |   |                     |                          |  |  |  |
| <p>AA: Standard screen<br/>                     BB: Check before starting screen<br/>                     CC: Maintenance time warning screen</p> <table border="0"> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>(1) Wiper switch</li> <li>(2) Buzzer cancel switch</li> <li>(3) Auto-deceleration switch</li> <li>(4) Hydraulic oil temperature gauge</li> <li>(5) Hydraulic oil temperature caution lamp</li> <li>(6) Engine coolant temperature gauge</li> <li>(7) Engine coolant temperature caution lamp</li> <li>(8) ECO gauge</li> <li>(9) Fuel consumption gauge</li> <li>(10) Service meter</li> <li>(11) Working mode display</li> <li>(12) Travel speed display</li> <li>(13) Camera image selection display</li> <li>(14) Clock</li> <li>(15) Fuel level gauge</li> <li>(16) Fuel level caution lamp</li> <li>(17) Travel speed selector switch</li> <li>(18) Window washer switch</li> <li>(19) Working mode selector switch</li> </ul> </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>(20) Air conditioner control switch</li> <li>(21) Radiator coolant level caution lamp</li> <li>(22) Seatbelt caution lamp</li> <li>(23) Engine stop pilot lamp</li> <li>(24) Lock lever pilot lamp</li> <li>(25) Message display</li> <li>(26) Air conditioner pilot lamp</li> <li>(27) Engine oil level caution lamp</li> <li>(28) Air cleaner clogging caution lamp</li> <li>(29) Charge caution lamp</li> <li>(30) Wiper pilot lamp</li> <li>(31) Swing lock pilot lamp</li> <li>(32) Preheater pilot lamp</li> <li>(33) Auto-deceleration and auto-low idle pilot lamp</li> <li>(34) Engine oil pressure caution lamp</li> <li>(35) Function switches (F1 to F6)</li> <li>(36) Maintenance time caution lamp</li> </ul> </td> </tr> </table> |  |   |                     |                          |  | <ul style="list-style-type: none"> <li>(1) Wiper switch</li> <li>(2) Buzzer cancel switch</li> <li>(3) Auto-deceleration switch</li> <li>(4) Hydraulic oil temperature gauge</li> <li>(5) Hydraulic oil temperature caution lamp</li> <li>(6) Engine coolant temperature gauge</li> <li>(7) Engine coolant temperature caution lamp</li> <li>(8) ECO gauge</li> <li>(9) Fuel consumption gauge</li> <li>(10) Service meter</li> <li>(11) Working mode display</li> <li>(12) Travel speed display</li> <li>(13) Camera image selection display</li> <li>(14) Clock</li> <li>(15) Fuel level gauge</li> <li>(16) Fuel level caution lamp</li> <li>(17) Travel speed selector switch</li> <li>(18) Window washer switch</li> <li>(19) Working mode selector switch</li> </ul> | <ul style="list-style-type: none"> <li>(20) Air conditioner control switch</li> <li>(21) Radiator coolant level caution lamp</li> <li>(22) Seatbelt caution lamp</li> <li>(23) Engine stop pilot lamp</li> <li>(24) Lock lever pilot lamp</li> <li>(25) Message display</li> <li>(26) Air conditioner pilot lamp</li> <li>(27) Engine oil level caution lamp</li> <li>(28) Air cleaner clogging caution lamp</li> <li>(29) Charge caution lamp</li> <li>(30) Wiper pilot lamp</li> <li>(31) Swing lock pilot lamp</li> <li>(32) Preheater pilot lamp</li> <li>(33) Auto-deceleration and auto-low idle pilot lamp</li> <li>(34) Engine oil pressure caution lamp</li> <li>(35) Function switches (F1 to F6)</li> <li>(36) Maintenance time caution lamp</li> </ul> |
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